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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,101	04/14/2004	Keiichi Nito	09792909-5896	6149

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EXAMINER	
CHOI, WILLIAM C	

ART UNIT	PAPER NUMBER
2873	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/824,101	NITO ET AL.
	Examiner	Art Unit
	William C. Choi	2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-24,28-31,42,49-60,87-91,95-98 and 125-136* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,31,42,49,60,87,98,125 and 136* is/are rejected.

7)☒ Claim(s) *21-24,28-30,50-59,88-91,95-97 and 126-135* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/711,651.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 2/2/2005. These drawings are acceptable.

In order to avoid abandonment, the drawing informalities noted in the paper mailed on 11/3/2004, must now be corrected. Correction can only be effected in the manner set forth in the above noted paper.

Figures 2A and 2B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 42 recites the limitation "said polarizing plate" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 42 is dependant on claim 31, where there is no disclosure of a "polarizing plate". For examination

purposes, it was assumed that claim 42 is dependant on claim 28, where a "polarizing plate" is disclosed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 31, 49, 60, 87, 98, 125 and 136 are rejected under 35 U.S.C. 102(b) as being anticipated by Nanba et al (U.S. 4,209,241).

In regard to claim 20, Nanba et al discloses a light modulation apparatus (column 4, lines 20-40, Figure 1) comprising: a liquid crystal device (column 6, lines 21-47, Figures 1 and 4, "3"); and a pulse control unit for changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by sequentially applying at least two distinct drive pulses to said liquid crystal device (column 6, line 48 – column 7, line 64, Figure 4, "P.G.").

Regarding claim 31, Nanba et al discloses wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion (column 6, lines 21-47, Figures 4 & 5, "E, N").

In regard to claim 49, Nanba et al discloses an image pickup apparatus comprising: a light modulation apparatus (column 4, lines 20-40, Figure 1) including a liquid crystal device (column 6, lines 21-47, Figures 1 and 4, "3"), and a pulse control

unit for changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by sequentially applying at least two distinct drive pulses to said liquid crystal device (column 6, line 48 – column 7, line 64, Figure 4, "P.G."); wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus (Figure 1, "3").

Regarding claim 60, Nanba et al discloses wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion (column 6, lines 21-47, Figures 4 & 5, "E, N").

In regard to claim 87, Nanba et al discloses a method of driving a light modulation apparatus (column 4, lines 20-40, Figure 1) including a liquid crystal device (column 6, lines 21-47, Figures 1 and 4, "3"), comprising the step of: changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by sequentially applying at least two distinct drive pulses to said liquid crystal device (column 6, line 48 – column 7, line 64, Figure 4, "P.G.").

Regarding claim 98, Nanba et al discloses wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion (column 6, lines 21-47, Figures 4 & 5, "E, N").

In regard to claim 125, Nanba et al discloses a method of driving an image pickup apparatus (column 4, lines 20-40, Figure 1) in which a liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus (column 6, lines 21-47, Figures 1 and 4, "3"), comprising the step of: changing the transmittance

of light made incident on said liquid crystal device from a current transmittance into a target transmittance by sequentially applying at least two distinct drive pulses to said liquid crystal device (column 6, line 48 – column 7, line 64, Figure 4, "P.G.").

Regarding claim 136, Nanba et al discloses wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion (column 6, lines 21-47, Figures 4 & 5, "E, N").

Allowable Subject Matter

Claims 21-24, 28-30, 50-59, 88-91, 95-97 and 126-135 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 21: a light modulation apparatus as claimed, specifically wherein said second drive pulse has a pulse height greater than said first drive pulse height.

The prior art fails to teach a combination of all the claimed features as presented in claim 22: a light modulation apparatus as claimed, specifically wherein said second drive pulse has a pulse width greater than said first drive pulse width.

The prior art fails to teach a combination of all the claimed features as presented in claims 23 and 24: a light modulation apparatus as claimed, specifically wherein a drive pulse is generated in synchronization with a clock generated by a drive circuit unit.

The prior art fails to teach a combination of all the claimed features as presented in claims 28-30: a light modulation apparatus as claimed, specifically further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

The prior art fails to teach a combination of all the claimed features as presented in claim 50: an image pickup apparatus as claimed, specifically wherein said second drive pulse has a pulse height greater than said first drive pulse height.

The prior art fails to teach a combination of all the claimed features as presented in claim 51: an image pickup apparatus as claimed, specifically wherein said second drive pulse has a pulse width greater than said first drive pulse width.

The prior art fails to teach a combination of all the claimed features as presented in claims 52 and 53: an image pickup apparatus as claimed, specifically wherein a drive pulse is generated in synchronization with a clock generated by a drive circuit unit.

The prior art fails to teach a combination of all the claimed features as presented in claims 54-56: an image pickup apparatus as claimed, specifically wherein said liquid crystal device is a guest-host type liquid crystal device.

The prior art fails to teach a combination of all the claimed features as presented in claims 57-59: an image pickup apparatus as claimed, specifically further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

The prior art fails to teach a combination of all the claimed features as presented in claim 88: a method of driving a light modulation apparatus including a liquid crystal

device as claimed, specifically wherein said second drive pulse has a pulse height greater than said first drive pulse height.

The prior art fails to teach a combination of all the claimed features as presented in claim 89: a method of driving a light modulation apparatus including a liquid crystal device as claimed, specifically wherein said second drive pulse has a pulse width greater than said first drive pulse width.

The prior art fails to teach a combination of all the claimed features as presented in claims 90 and 91: a method of driving a light modulation apparatus including a liquid crystal device as claimed, specifically wherein a drive pulse is generated in synchronization with a clock generated by a drive circuit unit provided in said light modulation apparatus.

The prior art fails to teach a combination of all the claimed features as presented in claims 95-97: a method of driving a light modulation apparatus including a liquid crystal device as claimed, specifically further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

The prior art fails to teach a combination of all the claimed features as presented in claim 126: a method of driving an image pickup apparatus including a liquid crystal device as claimed, specifically wherein said second drive pulse has a pulse height greater than said first drive pulse height.

The prior art fails to teach a combination of all the claimed features as presented in claim 127: a method of driving an image pickup apparatus including a liquid crystal

device as claimed, specifically wherein said second drive pulse has a pulse width greater than said first drive pulse width.

The prior art fails to teach a combination of all the claimed features as presented in claim 128: a method of driving an image pickup apparatus including a liquid crystal device as claimed, specifically wherein a drive pulse is generated in synchronization with a clock generated by a drive circuit unit provided in said light modulation apparatus.

The prior art fails to teach a combination of all the claimed features as presented in claim 129: a method of driving an image pickup apparatus including a liquid crystal device as claimed, specifically wherein a drive pulse is generated in synchronization with a clock generated by a drive circuit unit on the basis of a control signal supplied from said control circuit unit.

The prior art fails to teach a combination of all the claimed features as presented in claims 130-132: a method of driving an image pickup apparatus including a liquid crystal device as claimed, specifically wherein said liquid crystal device is a guest-host type liquid crystal device.

The prior art fails to teach a combination of all the claimed features as presented in claims 133-135: a method of driving an image pickup apparatus including a liquid crystal device as claimed, specifically further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

Claim 42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 42: a light modulation apparatus as claimed, specifically wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or form the optical path by operation of said movable portion of said mechanical iris.

Response to Arguments

Applicant's arguments with respect to claims 20, 31, 49, 60, 87, 98, 125 and 136 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W.C.

William Choi
Patent Examiner
Art Unit 2873
April 11, 2005

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